In the Specification:

Please amend the following to read as:

Page 4, Paragraph 0012

With reference to FIGS. 1 and 3, the solid state switching elements SCR1 and SCR 2 are shown as controlled by two circuits shown in a block diagram form. The first being a voltage sense circuit connected to the load and the second being a switch control circuit responsive to the voltage sense circuit to generate control or gate signals for the components SCR1 and SCR2. The voltage sense circuit derives its input from a voltage input connected to the battery positive terminal and a ground connected to the battery negative terminal. Internally the voltage between these terminals is compared to a reference to determine if a battery voltage is above or below the desired level and the output state is changed accordingly. The voltage sense circuit may also contain an over voltage detection circuit which will function, in the case of a voltage greatly above the desired level, to shut down the output for a selected interval. This would be desirable for instance if a battery lead became disconnected. By way of example, the voltage sense circuit may be made sensitive to either the average or the instantaneous value of the battery voltage. Sensing the instantaneous value maximizes the effect of battery lead and battery internal impedances. Battery temperature may also be sensed and used to modify the voltage set point. The switch control circuit responds to the output of

the voltage sense circuit and may have additional inputs, such as a frequency input connected to the alternator, and a circuit responsive to the temperature of a selected portion of the regulator so as to reduce or disable the output under an over temperature condition. In previously known circuitry the output of the switch control circuit needed to be only long enough to turn on the switching devices such as the SCR shown. For embodiments of the present invention, herein described by way of example, this portion of the circuit includes means of creating longer output pulses capable of turning on the various switching devices or silicon control rectifiers in a desired sequence over a desired time. The switch control circuit will have internal timing functions to minimize, as will be presently described, any imbalance between the currents handled by SCR1 and SCR2. With continued reference to FIGS. 1 and 2 and in accord with one embodiment of the present invention, the RMS value of the current through the alternator A1 and the semiconductors D1, D2, SCR1 and SCR2 is determined at engine maximum RPM. These provide the RMS values that make up F2 of FIG.2. A speed, shown as RPM1 of FIG.2, may then be determined such that below RPM1, in the half wave, or maximum imbalance condition, all component RMS currents are below the maximum values balanced at maximum RPM. Above RPM1, at least one RMS value from maximum RPM balanced values is exceeded. RPM1 may be increased if all components are known to operate below maximum temperature or ratings at maximum engine RPM.